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abruptly and shortly acuminate; costa shortly excurrent, or dissolving in or ceasing just below the apex; margin entire or rarely slightly denticulate here and there, slightly revolute or plane, border usually indistinct (when present of one or two rows of narrow cells not thickened); cells rectangular and hyaline below, rhomboidal and densely chlorophyllose above. Flowers polygamous. Seta paler above, flexuous and flattened when dry, not twisted, about 1 cm. long; capsule red-brown or paler, rugose, pendent, oblong-pyriform; operculum small, strongly convex, apiculate, long persistent, not polished; annulus triple, revoluble; teeth of the peristome linear-lanceolate, strongly barred within, .050-.060 mm. wide, .320 mm. long, smooth above, segments of the endostome free, strongly nodose, split between along the keel, cilia two, rudimentary. Spores smooth, .024-.027 mm. diameter.

Crevice in rocks, Funk Island, Newfoundland.

This beautiful species, named for the gentleman who communicated the specimens, differs from its nearest allies in the following particulars:

From *B. pendulum* Schimp. in the longer collum and shorter pointed lid, the free nodose endostome, the short seta, the smaller spores, and the almost immarginate short-pointed imbricate leaves.

From *B. inclinatum* Br. & Sch. in the free nodose endostome, the persistent lid, the short seta, the almost immarginate leaves with less revolute edges and uncolored costa.

From *B. lacustre* Brid. in the long much-branched stems, appressed leaves, shorter seta, slender nearly naked vaginule and polygamous flowers.

Type specimens have been deposited in the herbaria of the National Museum, Harvard University and Columbia College.

6. *Polytrichum piliferum* Schreb. Under spruce, mixed with No. 8, Mingan.

7. *Polytrichum juniperinum* Willd. Mingan.

8. *Polytrichum juniperinum* Willd., var. *strictum* Wallm. (*P. strictum* Banks.) Mingan and St. Johns, Newfoundland.

Madison, Wis.

BRIEFER ARTICLES.

A few Cape Cod plants.—A two weeks' visit at Hyannisport, in the township of Barnstable, on the south shore of Cape Cod, Mass., in the latter half of August, 1888, revealed to me a most charming flora, a brief mention of which may be of interest. Though it is a ride of but three hours in the cars from Boston, yet the characteristic flowers are very different, as you are beginning to reach the northern limit of many plants.

The country is very flat, covered with a thick growth of *Quercus silicifolia*, interspersed, here and there, with *Pinus rigida*, *Quercus alba*, and the like, while occasionally is to be seen a dense grove of Pitch Pine which has escaped the woodman's axe. Many acres of the township are devoted to the famous cranberry bogs, and it was a beautiful sight to see the well-kept patches, surrounded and cut by ditches, and so filled with the ripening berries that it was impossible to step upon the beds without crushing the fruit. One of the commonest wild flowers, at times whitening the fields and even growing by the wheel-tracks in the country roads, was the flat-topped *Eupatorium hyssopifolium*, which contrasted well with the gorgeous *Hibiscus Moscheutos* of the swamps, whose large rose-colored corolla was visible at a great distance. Not far from our house was the pond whence originated the pink variety of the Water Lily, *Nymphæa odorata*, and it was a strange sight to see the water dotted with the pink-red flowers. The pond is jealously protected from invaders.

The most attractive spots, however, for the botanist, were the many little ponds which are so abundant on the Cape. Most of these ponds have a clean, sandy border, and there we found, growing either near the water or in it, *Coreopsis rosea*, *Sabbatia chloroides* and *stellaris* and *Lobelia Dortmanna*, giving a most beautiful contrast of color to the margin of the pond, while less conspicuous plants were *Fuirena squarrosa*, var. *pumila*, *Eleocharis olivacea*, *melanocarpa* and *Robbinsii*, the latter's well-fruited spikes even narrower than the culm, *Rhynchospora macrostachya*, *Scleria reticularis*, and other commoner species of the *Cyperaceæ*. In places on the pond borders *Lachnanthes tinctoria* was very abundant, as also *Xyris Caroliniana*, *flexuosa*, and its var. *pumila*.

But the great charm of the ponds were the *Utricularias*. I never saw them in such profusion. In one spot *Utricularia cornuta* gave the bog a dash of yellow, while *Utricularia purpurea* was growing and flowering so abundantly that when the sun shone upon it, the surface of the pond was, as it were, painted purple. The pretty little *Utricularia inflata* was sailing at will on the water, and I found full-fruited plants in large numbers drifted against the shore. Beautiful specimens of *Utricularia clandestina* were common. This is a very modest plant to see, as its small yellow flower is alone visible above the slimy water which is its favorite home, but when carefully taken up, washed and mounted, it is a joy forever. The clandestine fruit is a prominent feature. At one pond we found what seems to be a very large form of *Utricularia gibba*. It certainly resembles nothing else, but will require more study. A ditch bordering a cranberry bog was fairly choked with *Utricularia minor*, but the most careful search revealed no trace of flower or fruit. Perhaps the most interesting find made by my friend (Mr. J. R. Churchill), just after my departure, was *Utricularia subulata*, var. *cleistogama*. I saw and determined fresh specimens of it afterwards. It was growing abundantly on the muddy border of a pond in all stages of development, from the early

budding state to the fruiting plant. By dissecting the buds, there was plainly revealed the minute, undeveloped, spurless, purplish corolla, with its two stamens enveloping the pistil. This is its most northern station reported thus far. I have collected the type on the Island of Nantucket.

Of the goldenrods, *Solidago odora* and *ulmifolia* were the common ones, during my visit, and the common *Aster*, in full bloom by September 1st, was the most interesting species *Aster polyphyllus*. I must not forget to mention the delicate *Stachys hyssopifolius*, abundant by ponds and along the roadside, and *Lycopus sessilifolius*, common by ponds, but not reported hitherto from this locality. Though mentioning but a few of the plants collected, I have tried to give some of the characteristic ones, and to show the attractiveness of the place from a botanical point of view.

—WALTER DEANE, *Cambridge, Mass.*

EDITORIAL.

IT SEEMS to be the opinion of many that systematic work among phanerogams is an almost finished subject, and that in the great problems relating to histology, physiology, thallophytes, etc., lies the chief work of the future botany. Any one who has worked with phanerogams knows how far from true such a notion is, even when using the old gross characters. But it is still farther from the truth when one comes to consider the relations of histology and embryology to systematic work. These great and comparatively new departments of botany are furnishing data for the systematist, and until the intimate structure and life history of every plant is thoroughly known, the work of systematic botany can not pretend to be more than tentative. It is well known that the gross organs of phanerogams are subject to great variation, variations which are likely to arise in organs which have important work to do, and hence must attempt to adapt themselves to changing conditions. This fact frequently makes specific lines very confusing, and it is just here that histology comes to one's aid. The minuter structures are by no means so sensitive to external conditions as the gross organs, and are more apt to endure the strain of environment unchanged. It is, therefore, a tolerably safe rule that those organs are of greatest use to the systematist which are of least vital importance to the plant, and histology thus often gives us a specific thread upon which to string the widest diversity of gross organs. Contributions to systematic work among phanerogams can be made in no more effective way than by searching their minute structures for characters that will hold. Our ambitious young botanists would be more profitably engaged in doing such work than in magnifying the variations to be discovered in gross organs and insisting that they should be considered new varieties or species. This work of hunting for variations in flowers, leaves, etc., simply illustrates what every one already knows, that essential organs will vary.